

STUDY No. 44

THE FISHES OF LAKE VALENCIA, CARACAS, AND OF  
THE RIO TUY AT EL CONCEJO, VENEZUELA. By CARL  
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Department of Zoölogy in Indiana University.



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## The Fishes of Lake Valencia, Caracas, and of the Rio Tuy at El Concejo, Venezuela

By CARL H. EIGENMANN, Dean of the Graduate School, and Head of the Department of Zoölogy in Indiana University

LITTLE is known concerning the fishes about Caracas, less of those of Lake Valencia (1,421 feet) to the west of it, and still less of the Tuy flowing eastward into an indentation of the Caribbean. Dr. A. S. Pearse of the University of Wisconsin made a collection of fishes in these localities in July and August, 1918. He collected on the Isla del Buro in Lake Valencia on July 9-12, at Maracay, 1,530 feet, in the lake on July 25, in the Rio Tapa Tapa on July 15, in the Rio Castaño on July 16, 27, and in the Rio Bue on July 19, 20, 29, 30. At El Concejo, 2,040 feet, a station between Maracay and Caracas, he collected in the Rio Tiquirito, a tributary of the Tuy on August 1, at its mouth on August 2, and in the Tuy on August 1. Collections were made near Caracas in the Guaire basin on August 4.

Lake Valencia is of particular interest. It was formerly considerably larger and drained regularly thru the Rio Paito and Rio Pao into the Orinoco. It has in historic times become landlocked with occasional overflows. With its tributaries it formed the northermost sources of the Orinoco basin.

Sievers *Cordillere von Merida*, p. 119, says:

Bisher hat man das Becken des Sees von Valencia als ein besonderes hydrographisches abflussloses Gebiet betrachtet. Es fragt sich nun, ob dies stets der Fall gewesen ist. Humboldt berichtet, dass früher der Rio Pao am Westufer des Sees, ein Fluss, der aus den Quellflüssen Guataparo, Tocuyito und Chirgua entsteht, in den See gegangen und erst seit Ende des 17. Jahrhunderts durch einen Gutsbesitzer nach den Llanos abgeleitet sei, das aber noch 1800 der Caño Camburi zu Zeiten aus dem See herausfloss. Es scheint nun, dass dies sich allmählich vervollkommen hat. Wenigstens berichtet Dr. Alamo in Caracas in einem Aufsätze Estudios sobre el lago de Valencia der Zeitung El Opinion Nacional vom 3 Januar 1884, dass 1817 einige von den Spaniern verfolgte Flüchtlinge auf die Weise der Verfolgung entgingen, dass sie sich am See von Valencia einschifften und durch den Caño Camburi, den Rio Bucarito, den Rio Paito, Rio Pao, Portuguesa, Apuré zum Orinoco hinabfuhren; dass ferner der General Arriento 1853 bei der Befahrung des Sees mittelst eines Dampfers bei Gelegen-

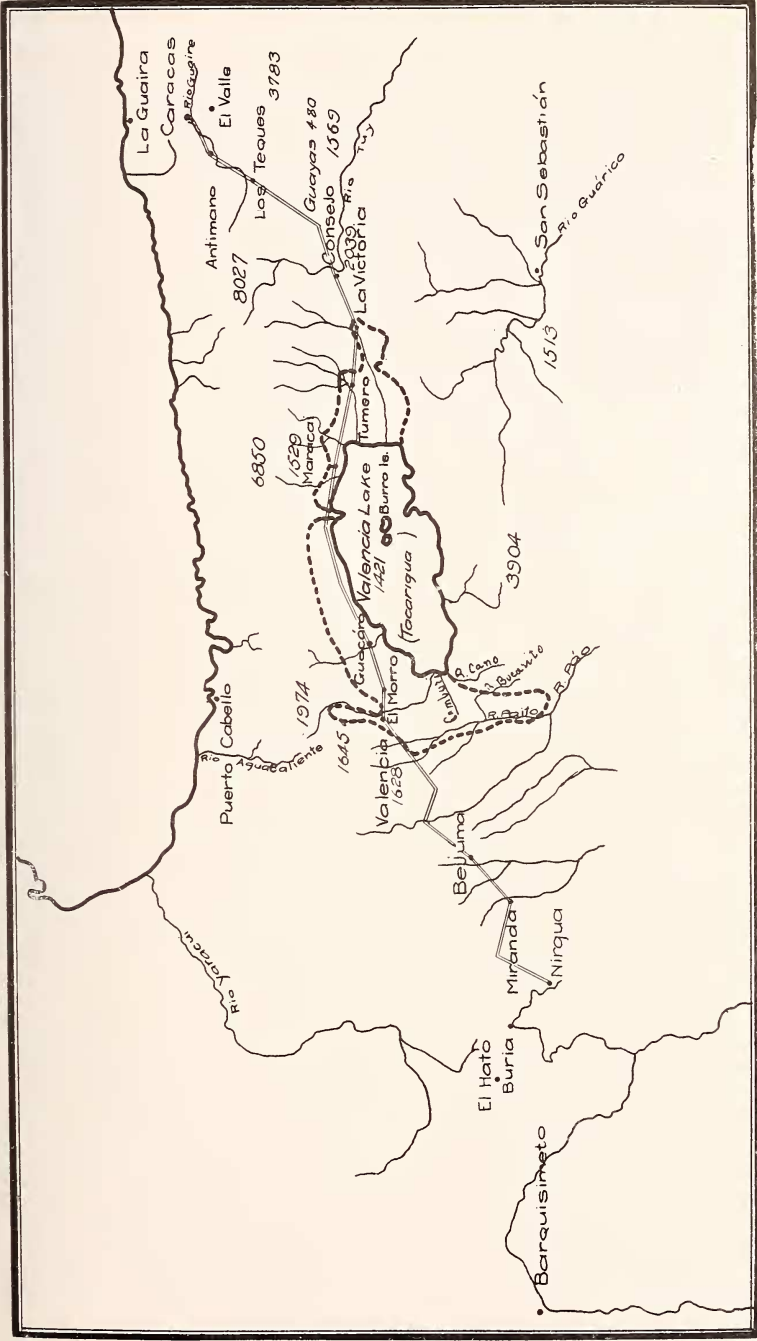


FIG. 1. Region about Lake Valencia. The broken line indicates the ancient maximum size of the lake.  
 After Sievers *Cordillere von Merida*.

heit der Einnahme von Holz constatirt habe, dass der Caño Camburi aus dem See herausflösse. Damit hätten wir also das Resultat, dass der See von Valencia und seine sämtlichen Zuflüsse zum Stromgebiete des Orinoco gehört haben, und es unterliegt keinem Zweifel, dass dies noch bis vor Kurzem der Fall gewesen ist. Nach Aussage des Hacendado Don Alejandro Llanos auf der Hacienda Siparo (El Progreso) floss der See etwa bis 1873 thatsächlich in den Caño Camburi nach dem Rio Pao ab. Dagegen hat nun 1873 der Hacendado Amarado Munoz infolge der Ueberschwemmungen, die der Rio Paito alljährlich in seinen Feldern anrichtete, denselben abgeleitet, so dass heutzutage der Rio Paito an der sogenannten Loma de la Sabana de San Pablo entspringt, bis zu einem Punkte Las Araguatas fließt, dort sich theilt auf der südlichen Seite den Namen Rio Paito beibehält, in seinem nördlichen Arm Rio Canes heisst, sich mit diesem Arm bei Eglita wieder vereinigt und nun als Caño Camburi in den See von Valencia mündet. Seit 15 Jahren ist also die Existenz eines Binnenbeckens, das früher in den Orinoco abfloss, durch künstliche Eingriffe wieder hergestellt worden, indess soll zur Regenzeit immer noch ein Zusammenhang mit dem Rio Pao existieren; die früheren Zuflüsse des Rio Paito, der Guataparo und Tocuyito gehen jetzt in den Rio Chirgua und dann erst in den Pao.

The fauna is poor. In all but 31 species were collected: Siluridae 4 species, Loricariidae 5, Callichthyidae 1, Characidae 14, Gymnotidae 1, Atherinidae 1, Poeciliidae 1, Symbranchidae 1, Cichlidae 2.

A list of the species with their general distribution follows:

C. Pimelodella metae Eigenmann.	Valencia basin.
C. Pimelodella tapatapæ sp. nov.	Valencia basin.
A. Rhamdia quelen Quoy and Gaimard.	Valencia and Tuy basins.
C. Rhamdia guairensis sp. nov.	Near Caracas.
C. Ancistrus brevifilis sp. nov.	Tuy basin.
A. V. Plecostomus plecostomus Linnaeus.	Valencia and Tuy basins.
C. Cochliodon plecostomoides Eigenmann.	Valencia basin.
C. Lasiancistrus mystacinus Kner.	Near Caracas.
C. Chaetostomus nudirostris Lütken.	Valencia.
C. Chaetostomus pearsei sp. nov.	Valencia and Tuy basins.
C. Chaetostomus guairensis Steind.	Valencia basin.
C. Farlowella acus (Kner)	Tuy basin.
B. Corydoras aeneus Gill.	Valencia basin.
A. Hoplias malabaricus (Bloch).	Valencia and Tuy basins.
B. Curimatus argenteus Gill.	Valencia and Tuy basins.
B. Odontostilbe pulcher (Gill).	Valencia basin.
<sup>1</sup> V. Hemigrammus marginatus Ellis.	Valencia basin.
E. Characidium catenatum Eigenmann.	Tuy basin and near Caracas.
C. Moenkhausia pittieri sp. nov.	Valencia and Tuy basins.
A. V. Astyanax bimaculatus (L).	Valencia and Tuy basins.
C. Astyanax metae Eigenmann.	Valencia and Tuy basins.
B. Hemibrycon taeniurus (Gill).	Tuy basin.
C. V. Bryconamericus beta Eigenmann.	Tuy basin.
C. V. Gephyrocharax valencia sp. nov.	Valencia basin.

<sup>1</sup>Southern Brazil, etc.

V. <i>Creagrutus beni</i> Eigenmann.	Valencia and Tuy basins.
D. <i>Roeboides dayii</i> Steindachner.	Tuy basin.
A. <i>Gymnotus carapo</i> Linnaeus.	Valencia basin.
C. <i>Menidia venezuelae</i> sp. nov.	Valencia basin.
B. V. <i>Lebistes reticulatus</i> (Peters).	Valencia basin.
A. V. <i>Symbranchus marmoratus</i> Bloch.	Valencia and Tuy basins.
C. V. <i>Crenicichla geayi</i> Pellegrin.	Valencia and Tuy basins.
B. V. <i>Aequidens pulcher</i> (Gill).	Valencia basin.

The species fall into a number of distinct groups according to their distribution. Six (marked A) are universally distributed species. Six (B) in addition to the universally distributed species are also found on the Island of Trinidad. The fauna of the Island of Trinidad has lost its isolation by the study of the Valencia and Rio Meta faunas. Sixteen (marked C) are peculiar to Venezuela about Valencia and the upper Rio Meta but all of these belong to widely distributed genera and they probably have a wider distribution than is now known. One species (D) is also found in the Rio Magdalena, and one (E) is found in the lowlands of British Guiana. Two species do not belong to any of these groups. Only ten of the species (marked V) were taken in Lake Valencia itself.

The lowland fauna is represented only by the universally distributed species and by *Roeboides*, *Characidium*, and *Moenkhausia*. The highland fauna consisting of *Pygidium* and *Astroblepus* is not represented in the collection.

#### ENUMERATION OF THE SPECIMENS

##### Siluridae

##### *Pimelodella metae* Eigenmann

##### "Vagre"

- 15088, 1♂. Largest 100 mm. Maracay, Rio Bue, Valencia basin, July 29.  
 15089, 1. Rio Castaño, Valencia basin, July 27.

##### *Pimelodella tapatapae* sp. nov.

- 15094, 1. Type 156 mm. Mouth of Rio Tapa Tapa, July 15, 1919.

Head 4.25; depth 5.4; D. 1.6; A. 8 to 8.5; adipose fin 2.8 in the length, its distance from the dorsal very little longer than the eyes; eye 4 in the head. 1.25 in the interorbital; teeth in the premaxillary in a band of uniform width; maxillary barbel reaching beyond the end of the adipose; outer mental barbel very nearly to ventrals; inner mental barbel slightly beyond origin of pectorals.

First dorsal ray (the spine) equal to the head without the opercle; upper caudal lobe narrower than lower, sharp pointed and a little shorter than the lower; anus but little nearer caudal than snout; pectoral spine equal to snout and eye, with over 20 short teeth on its posterior margin.

<sup>1</sup>Along the base of the Cordilleras from Bolivia to Caracas.

<sup>2</sup>The numbers refer to the collections of Indiana University.

Dorsal hyaline at base, dusky above the hyaline; a dark stripe from the snout to the caudal, widest and most diffuse on head, narrow and sharp on sides.

Resembling *Pimclodella metae* which has the upper caudal lobe much longer, the barbel shorter.

**Rhamdia quelen** Quoy and Gaimard

"Vagre"

15090, I. 167 and 198 mm. Rio Castaño. Maracay, July 27.

15092, I. 195 mm. Maracay Rio Bue, July 30.

15093, I. 278 mm. El Concejo, Río Tiquirito, August 2.

Maxillary barbel to origin of adipose in the largest, 15093, I. to the last fifth of the adipose in 15092, a little beyond its origin in 15090.

Distance between dorsal and adipose 4 to 5 in the head; adipose 2.6 to 2.66 in the length.

Pectoral spine equals snout and eye.

**Rhamdia guairensis** sp. nov.

"Vagre"

*Pimclodus humilis* Günther, Cat. Fishes, v. 1864, p. 129

Venezuela

15091, I. Type, 132 mm. paratypes 5, 68 to 220 mm. Rio Guaire near Caracas, August 4.

Günther says of his *Pimclodus humilis*. "pectoral spine slightly serrated along both edges". In the specimens before me the pectoral spine is nearly smooth behind and has hooks along the anterior margin, the first one near its tip longer than the spine at its point of attachment. The hooks decreasing in size toward the base. There are other small differences but if it were not for the difference in the pectoral spine I should consider them as belonging to *humilis*.

Head 4 to 4.66; depth 6; D. 1.6; A. 11 to 13; distance between dorsal and adipose 1.33 to 1.66 in the head.  $\frac{1}{2}$  to  $\frac{2}{3}$  the length of the adipose; maxillary reaching to near tip of the ventral or not quite to its base; outer mental barbels to middle of pectorals; eye 2.5 in snout. 6 in head, 2.33 in interorbital; intermaxillary band of teeth slightly wider at the sides, with incipient backward projecting angle.

First dorsal ray about equal to snout and eye; caudal deeply forked; the lobes of about equal length, the lower a little the wider; anus a little nearer the eye than to the caudal; pectoral spine but little more than half the length of the fin, about equal to the snout in the young. .66 to .75 of the snout in the adult; anterior margin with about 9 hooks. very strong at the tip, gradually fading out to the base.

Dorsal with a narrow hyaline area above its base, beyond this the membranes are dark in their posterior half, light in the anterior, the dark becoming diffuse over the entire membrane toward the tip.

## Loricariidae

*Plecostomus plecostomus* (L)

"Panaque"

- 15082, I. 1, Concejo, Rio Tuy, August 1, 1918.  
 15083, I. 3, Concejo, Rio Tiquirito, August 2, 1918. The smallest 23 mm.  
 15085, I. 1, Isla del Buro, July 12, 1918.  
 27+1 lateral plates, 15085 has the occipital bordered by three larger and three minute plates.  
 15086, I. 39 mm. Maracay, Rio Bue, July 20, 1918.

*Cochliodon plecostomoides* Eigenmann (Ms)

"Panaque"

- 15084, I. 1, Maracay, Rio Bue, July 29, 1918.

*Lasiancistrus mystacinus* Kner

Recorded from Caracas; no specimens secured.

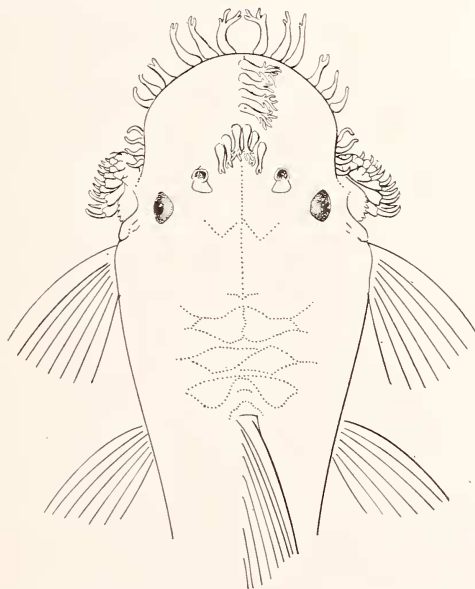


FIG. 2. Top of head of *Ancistrus brevifilis* E. Type.

*Ancistrus brevifilis* sp. nov.

"Barbon"

- 15080, I. Type, 150 mm.; paratype 136 mm. male, paratype 100 mm. female;  
 El Concejo, Rio Tiquirito, August 2, 1918.

Distinguished by short tentacles, bifid or multifid on the snout.

Head 2.8 (2.66 in the male paratype); depth 5.25; D. 1.7; A. 1.4; plates 23+1; width of head 1.25 (2.4); in its length, its depth equal to half its length; eye 9 (8) in the head; interorbital 2.33 (2.6); mandibular ramus

3 (3.33) in interorbital; interopercle with 12 to 13 spines, the longest .2 the length of the head, naked portion of snout measured in the middle 2.5 to 2.66 in the length of the head; tentacles short, about equal to the length of the eye or shorter, those on the middle with from 2 to 10 very short branches at the tip; 5 plates and one median scute between the dorsal and the adipose. 11+1 between the anal and lower caudal ray; base of dorsal equal to its distance from the middle of the adipose spine; ventrals reaching past middle of anal, pectorals to the middle of the ventrals; depth of caudal peduncle 26 in its distance from the caudal.

Dorsal, caudal, ventrals and pectorals, each with four or five conspicuous, wavy bars; faint darker spots about the size of the eye in front of the dorsal, ventral surface uniform. In the female, the smaller paratype, the number of bands on the fins is smaller and they are less well marked; the naked margin of the snout is very narrow and without tentacles.

*Chaetostomus nudirostris* Lütken

Steindachner, Flussf. Südam II, 1881, p. 20, pl. v. fig. 2 notes on the type which has D. I, 7. (Valencia.)

No specimens were secured.

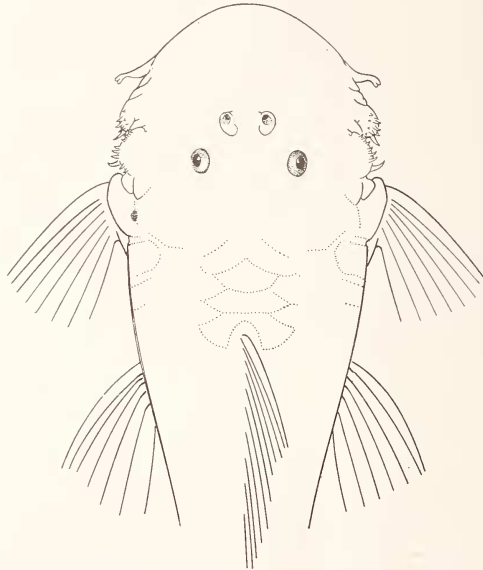


FIG. 3. Top of head of *Chaetostomus pearsei* E. Type.

*Chaetostomus pearsei* sp. nov.

"Coroncho"

15077, I. Type, 146 mm., paratypes, 3, 65 to 133 mm., Rio Castaño at Maracay, under rocks, July 16, 1918.

15078, I. Paratype 122 mm., Rio Tuy at El Concejo, August 1, 1918.

Head about 3; depth 6.5 to 7.5; D. I,9; A. I,4; 24+1 plates between the dorsal and the fulcrum of the adipose, 11 between the anal and the lower



caudal ray. Width of the head an orbital diameter less than its length, its depth at the eyes 2.5 in its length; interorbital 4 or nearly 4 in the length of the head; mandibular ramus equal to the interorbital; 5 to rarely 7 interopercular spines; naked part of snout extending about one third of the way to the posterior part of the eye.

None of the plates keeled; dorsal reaching the base or middle of the adipose spine; base of dorsal equal to snout and eye; lower caudal ray one or two orbital diameters shorter than the head; ventrals reaching to second third of the anal, pectorals about to middle of ventrals; ventrals rounded or angulated at the fourth ray from the outer.

Dark above with faint light dots, lower surface unspotted, fins dusky, a few faint light dots on the posterior dorsal rays; dorsal and caudal margined with light.

These were taken with:

**Chaetostomus guairensis** Steindachner

*Chaetostomus guairensis* St. Flussf. Südam. II, p. 21, 1881, pl. III. fig. 1 and 1a. (Rio Guaire at Caracas.)

15079. I. one, 155 mm. Rio Castaño, at Maracay, July 16, 1918. D. I.S.

**Farlowella acus** (Kner)

"Aguja"

15081, I. 3 males and 4 females, El Concejo, Rio Tiquirito, August 2, 1918.

Callichthyidae

**Corydoras aeneus** Gill

15087, I. Maracay, Rio Bue, July 19, 20, and 29.

Erythrinidae

**Hoplias malabaricus** (Bloch)

"Guabina"

15106, I. Rio Tiquirito, El Concejo, August 1.

15107, I. Rio Tuy, El Concejo, August 1.

15108, I. Isla del Buro, Lake Valencia, July 9 and 10.

15109, I. Maracay, Rio Bue, July 19.

Characidae

Curimatinae

**Curimatus argenteus** (Gill)

"Cula"

15110, I. El Concejo, Rio Tiquirito, August 1.

15111, I. Maracay, Rio Bue.

Cheirodontinae

**Odontostilbe pulcher** (Gill)

"Sardina"

15126, I. Maracay, Rio Bue, July 19 and 29.

## Nannostomatinae

*Characidium catenatum* Eigenmann

"Majuca"

15143, I. Rio Guaire, near Caracas, August 4, 1918

15142, I. Concejo, Rio Tuy, August 1, 1918.

## Tetragonopterinae

*Hemigrammus marginatus* Ellis

"Sardina"

15127, I. Maracay, Rio Bue, July 29.

15128, I. Isla del Buro, July 11.

These specimens differ from those in Paraguay and southern Brazil in having not more than one maxillary tooth. The caudal margin or submargin is intensely black, the tip in some specimens light.

*Moenkhausia pittieri* sp. nov.

"Sardina"

15136, I. Type 58 mm. 27 paratype, 33 to 60 mm. Concejo, Rio Tiquirito, August 1.

15137, I. Paratype, 45 mm. Maracay, Rio Bue, July 28.

Head 4: depth 2.16 to 2.5: D. 11; A. 26 to 29; scales 7-35-6; eye 2.5 equals interorbital.

Deep, compressed, ventral profile regularly arched from chin to end of anal, dorsal profile slightly depressed over the eye; preventral area narrowly rounded, postventral area narrowly compressed; predorsal area narrowly keeled, with a median series of slightly notched scales near the dorsal and lateral scales with their edge bent over the middle further forward.

Occipital process equals one-fourth the distance from its base to the dorsal, bordered by three scales; fontanels rather broad, the frontal fontanel about three-fourths as long as the parietal without its groove; suborbital with a strongly convex margin, the naked area of the cheek increasing in width from the angle of the suborbital forward; maxillary a little less than 3 in the head, mandible very little more than 2; four or five teeth in the outer series of the premaxillary, five in the inner series, three or four in the maxillary; five teeth of nearly equal size (the last sometimes considerably smaller) in each ramus of the mandible, abruptly smaller teeth on its side.

5+8 gill rakers.

Scales regularly imbricate, lateral line but little decurved; anal with a sheath of a few scales along the base of its anterior third or fourth; caudal lobes with but few small scales along the outer part of their basal fourth. Scales with but few divergent striae.

Fins all large; origin of dorsal equidistant from snout and tip of adipose or caudal, the third, fourth, and fifth rays highest, reaching to the adipose or the caudal; adipose fin well developed; caudal lobes 2.75 to 3.25 in the length; anal high, with a distinct lobe in front, the fifth to the seventh ray highest, reaching to the base of the fifth to sixth ray from the last, origin of anal about equidistant from the caudal and the middle

of the eye; ventrals prolonged, reaching in extreme cases to the twelfth anal ray; pectorals about equal to the length of the head.

No caudal or humeral spots. a narrow lateral band; dorsal, ventrals, and anal dusky.

In general appearance this species resembles Fowlerina but lacks a predorsal spine. None of the specimens have hooklets on the anal rays usually found on mature males of this genus.

Vertebrae 13+17.

Alimentary canal containing fragments of insects.

*Astyanax bimaculatus* (L)

"Sardina palate"

- 15112, I. Maracay, Rio Bue, July 29, 1918.  
 15113, I. Mouth of Rio Tapa Tapa, July 15.  
 15114, I. Rio Castaño, July 16 and 27.  
 15116, I. Isla del Buro, Lake Valencia, July 11.  
 15117, I. Rio Bue, July 18.  
 15118 and 15119, I. Rio Tiquirito, Concejo. August 1.

*Astyanax metae* Eigenmann

"Sardina ravo de candelá"

- 15120, I. Rio Castaño, July 16 and 27.  
 15121, I. Rio Bue.  
 15122, I. Concejo, Rio Tiquirito and Rio Tuy, August 1.  
 15123, I. Mouth of Rio Tapa Tapa, July 15.

The dark area from anal to caudal spot inconspicuous or absent.

*Hemibrycon taeniurus* Gill

"Sardina"

- 15138, I. Concejo, Rio Tuy, August 1.  
 15139, I. Concejo, Rio Tiquirito, August 1.

Eye equals interorbital or but slightly less; head 4.38 to 4.6; anal with a narrow black line just within the margin and across the lobe at the base of its distal third. Tips of first anal rays milk white; caudal in the male without squamous pouch: five or six teeth in the front row of the premaxillary, the first and last antrorse.

*Bryconamericus beta* Eigenmann,

"Sardina"

- 15140, I. Concejo, Rio Tiquirito, August 1.

*Bryconamericus* sp. ?

- 15141, I. one 43 mm. Isla del Buro, July 11.

A. 30; lat. 1. about 36; one maxillary tooth; maxillary little shorter than eye; interorbital slightly larger than eye.

Glandulocaudinae

*Gephyrocharax valencia* sp. nov.

"Sardina"

- 15129, I. Paratypes. Isla del Buro, Lake Valencia, July 11.

15130, I. Two paratypes, Maracay, Rio Bue, July 19.

15131, I. Type and 3 paratypes, Maracay, Lake Valencia off dock of Paper Mill.

The genus *Gephyrocharax* has hitherto been known from five species, *G. melanocheir* from the Magdalena between Honda and the coast, *G. caucanus*, in the Cauca basin between Cartago and Cali. *G. chococensis* from the San Juan and the Atrato basins, *G. atricaudata* from the Panama Canal Zone, and *G. intermedius* from Panama. The present species reaches a length of about 45 mm.

Head 4.33; depth 3.33 to 3.66; D. 9; A. 30 to 32. Scales 5 to 6.5-40 to 42-5; eye longer than snout, 3 in the head, slightly less than inter-orbital.

Very similar to *G. chococensis* and *G. melanocheir*, the pectoral in the male not black tipped, the shoulder without a vertical bar; the frontal fontanel extending to the ethmoid.

#### *Creagrutus beni* Eigenmann

"Sardinas"

15124, I. Rio Guaire near Caracas, August 1.

15125, I. El Concejo, Rio Tiquirito, August 1.

15133, I. Maracay, Rio Bue, July 19.

15134, I. Isla del Buro, July 11.

15133 and 15134 are small specimens, mostly between 30 and 40 mm. These have a dark wedge entering the middle of the dorsal from in front. This spot is much less conspicuous and may be absent in the adult. Some of the smaller have a conspicuous humeral spot and a small caudal spot.

#### Characinae

#### *Roeboides dayii* Steindachner

"Sardina"

15132, I. El Concejo, Rio Tiquirito, August 1, 1918.

D. 49; scales 61 and 62. Shoulder spot small and inconspicuous.

It is possible that this will form another of the "statistical" species of the genus *Roeboides*. There are several such west of the Eastern Andes of Colombia. There being but one specimen available for examination, the determination of its closer affinities may be left in abeyance.

#### Gymnotidae

#### *Gymnotus carapo* Linnaeus

"(L?) amprea"

15095, I. Maracay, Rio Bue, July 20.

#### Atherinidae

#### *Menidia venezuelae* sp. nov.

75144, I., 15, largest 61 mm. Rio Tapa Tapa, July 15, 1918.

Head 3.8 to 4.2; depth 5.66 to 6.33; D. IV or V, 8 to 10; A. 20 to 22; scales 40 to 45; eye about equal to the snout, 3-3.2 in the head, inter-orbital 4; snout freely protractile.

Upper profile straight to the tip of the premaxillary, mandible strongly inclined upward, gape short, reaching about halfway to the eye; teeth in two to four feeble series, no canines; about 17 rakers on the lower arch; depth of caudal peduncle 2 in its length.

Scales entire; dorsal and anal naked.

Origin of spinous dorsal above a point between the anus and anal, a little nearer tip of snout than tip of caudal lobe; origin of second dorsal a little behind the middle of the anal, the base of its last ray over the anal; caudal equal to the length of the head, pectorals equal to the length of the head without the opercle; origin of ventrals a little nearer snout than base of last anal ray.

A lateral band on the fifth and part of the sixth scale below the dorsal, otherwise translucent?

Poeciliidae

*Lebistes reticulatus* (Peters)

- 15145, I. Sewer ditch, Maracay, July 14.  
 15146, I. Rio Castaño, July 27.  
 15147, I. Isla del Buro, July 11.  
 15148, I. Maracay, Lake Valencia, July 25.  
 15149, I. Maracay, Rio Bue, July 19.

Symbranchidae

*Symbranchus marmoratus* Bloch

"Anguilla"

- 15096, I. Isla del Buro, July 9 and 12. Rocks on shore of Lake Valencia. Mud at depth of 15 m. July 18; one from stomach of Guabina, July 22.  
 15097, I. Rio Guaire near Caracas, August 4.  
 15098, I. Little stream by Agricultural Station, Caracas. Dr. Pittier.  
 15099, I. 35 mm. Mud behind rushes. Maracay, July 25.

Cichlidae

*Crenicichla geayi* Pellegrin

"Mataguaro"

- 15100, I. Concejo, Rio Tiquirito, August 1 and 2.  
 15101, I. Isla del Buro, July 9 and 11.  
 15103, I. Maracay, Rio Bue, July 29.  
 15102, I. Rio Castaño, July 27.

*Aequidens pulcher* (Gill)

"Chusco"

- 15104, I. Isla del Buro, Lake Valencia, July 10.  
 15105, I. Maracay, Rio Bue, July 19 and 29.

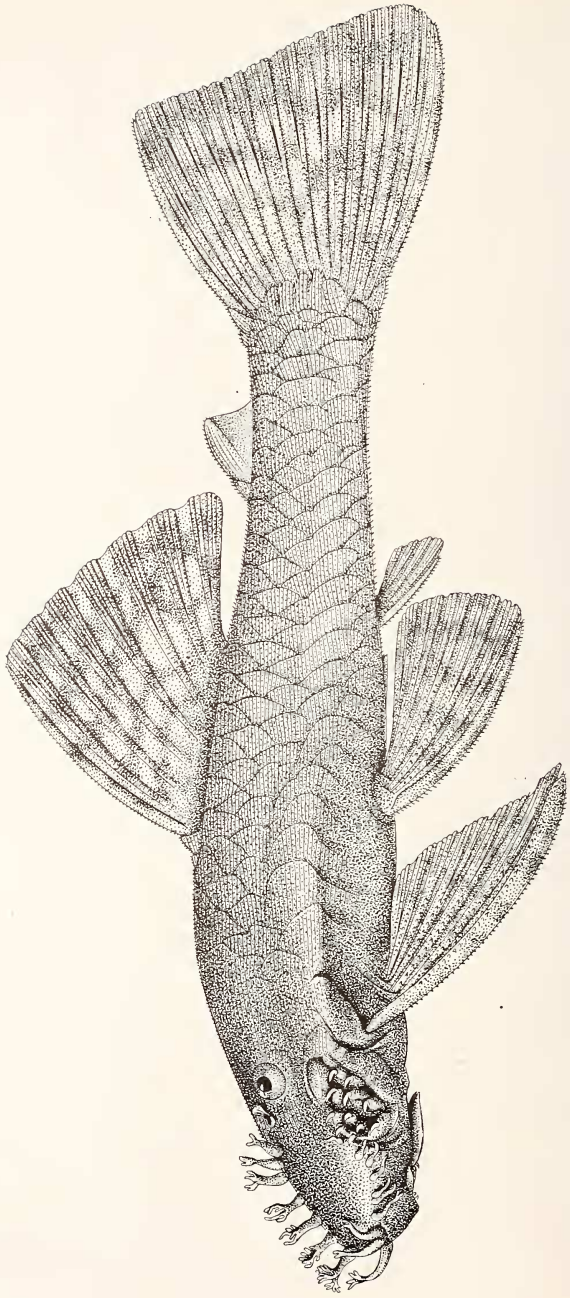


PLATE I. *Ancistrus brevifilis* Eigenmann. Type No. 15080, I. U. M. El Concejo.

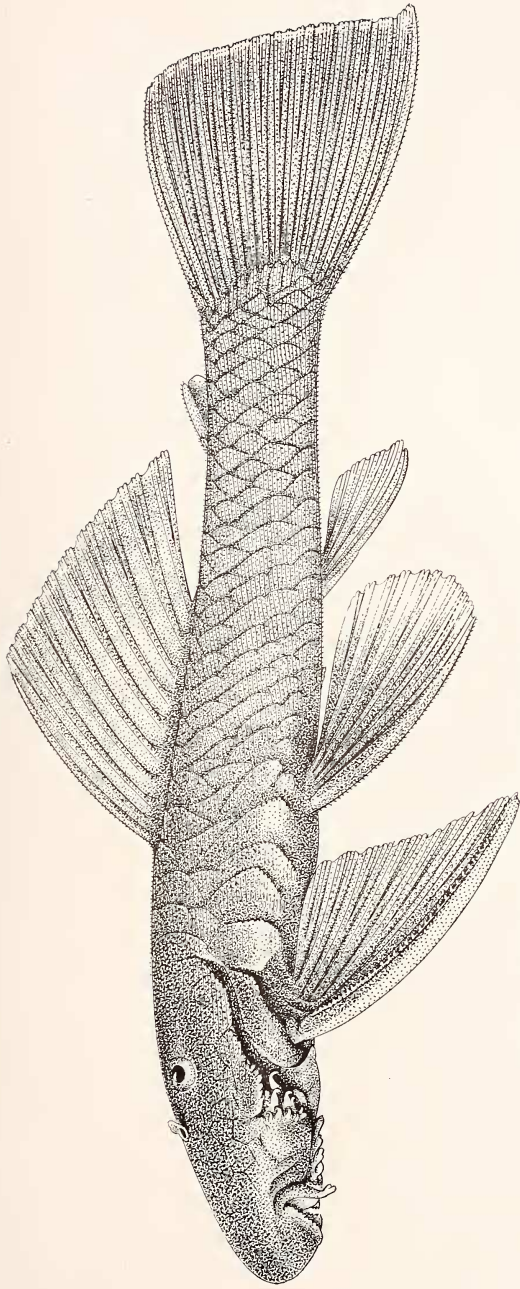


PLATE II. *Chaetostomus pearsei* Eigenmann. Type No. 15077. L. U. M. Maracay.

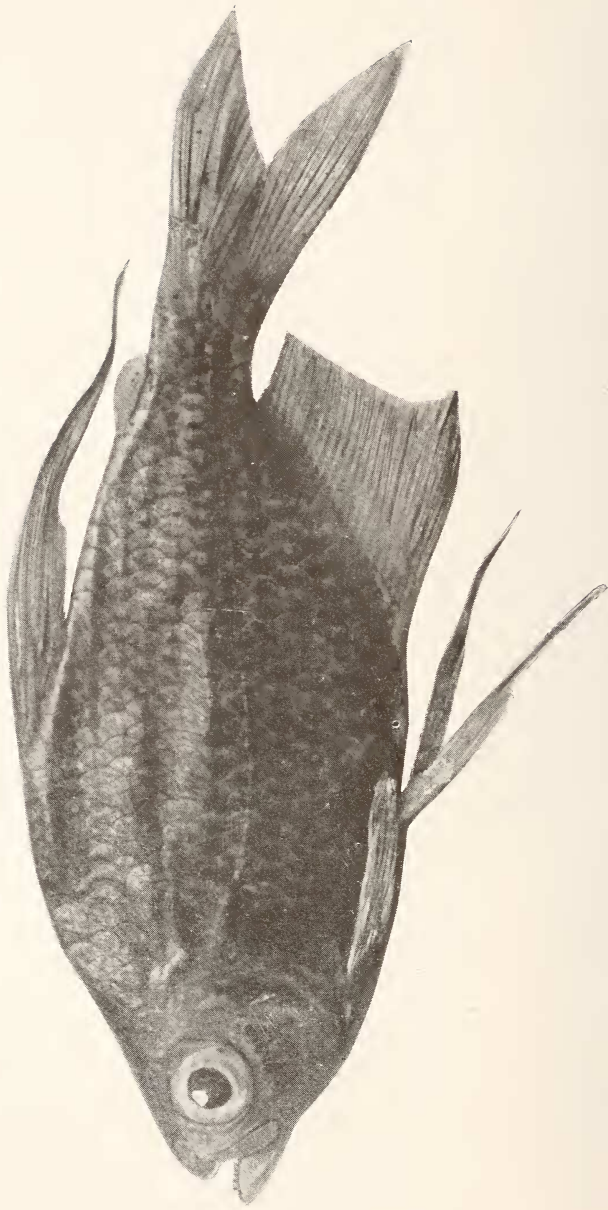


PLATE III. *Moenkhausia Pittieri* Eigenmann. Type, No. 15136, I. U. M. Rio Tiquirito.